

Abstract of the Disclosure

A door frame with a substantially continuous sealing surface supports a door with a substantially continuous sealing member mounted thereon. A second substantially continuous seal on a second door, such as a screen door, may seal against insects. A stepped U-shaped frame member has an opening at one end that is closed with a square-cut member, such as a threshold, leaving gaps at the outer steps of the frame. Plugs fill these gaps, providing a continuous surface without expensive machining of the threshold. Continuous sealing surfaces may be formed with interfitting frames and hinges. A rib with an outwardly facing surface that forms much of the sealing surface. The rib is notched to accept the fixed hinge leaf of a hinge assembly. The fixed hinge leaf is stepped to fit into a notch in the frame rib, and to provide a surface that is substantially coplanar with the outwardly facing surface of the rib. In turn, the fixed hinge leaf is notched to accept at least one pivoting hinge leaf, which is also stepped to provide a surface that is coplanar with the above-identified surfaces of the fixed hinge leaf and the frame rib, producing a substantially coplanar, outwardly facing sealing surface.

One main frame assembly has a groove with an undercut or dovetail surface, and parts of a hinge assembly attached to this frame may have a rib with an outwardly sloping surface that complements and interlocks with the dovetail groove. Another interlocking system has a component, such as a door surround, with kerfs to support a sealing member and notches for other components, such as hinge leaves, which also have kerfs for the sealing member. The surround has a rib that fits into a groove on the hinge leaf, which ensures precise alignment of the kerfs,

facilitates installation of the sealing member and increases structural integrity.

One hinge assembly has a mounting plate fixed knuckles spaced having to receive knuckles of pivoting hinge leaves. 5 Stepped bushings are inserted into the top end of the fixed hinge bushings, and into the bottom end of the knuckles of the pivoting hinge leafs. The bushings in the pivoting leafs, which support the door or doors, bear on bushings in fixed knuckles.

10 The bores and bushings are preferably designed, e.g. with matching grooves and ribs, so that the bushings must be properly oriented to fit into the bores. In one embodiment, the heads of the bushings have at least two steps or raised contact surfaces and at least two indentations or depressed contact surfaces. When the doors are opened, the steps on their bushings in the pivoting hinge leaves drop into the indentations in the adjacent fixed hinge leaf and hold the door in position.